D.C. DEPARTMENT OF HEALTH
Environmental Health Administration
Bureau of Environmental Quality
Water Quality Division

DISTRICT OF COLUMBIA
FINAL
TOTAL MAXIMUM DAILY LOAD

for
OIL AND GREASE
IN
ANACOSTIA RIVER

October 2003

Government of the
District of Columbia
Anthony A. Williams, Mayor

Table of Contents

List of Figures

List of Tables

List of Appendices

1. Introduction

1.1. TMDL Definition and Regulatory Information

Section 303(d) (1)(A) of the Federal Clean Water Act (CWA) states:

> *Each state shall identify those waters within its boundaries for which the effluent limitations required by section 301(b) (1)(A) and section 301(b)(1)(B) are not stringent enough to implement any water quality standards applicable to such waters. The State shall establish a priority ranking for such waters taking into account the severity of the pollution and the uses to be made of such waters.*

Further, Section 303(d) (1)(C) states:

> *Each state shall establish for the waters identified in paragraph (1)(A) of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies under section 304(a)(2) as suitable for such calculations. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.*

Section 303(d) of the Clean Water Act and EPA's Water Quality Planning and Management Regulations (40 CFR Part 130) require states to develop Total Maximum Daily Loads (TMDLs) for waterbodies, which are exceeding water quality standards.

In 1996, the District of Columbia (DC), developed a list of impaired waters that did not or were not expected to meet water quality standards as required by Section 303(d)(1)(A). This list, submitted to the Environmental Protection Agency every two years, is known as the Section 303(d) list. This list of impaired waters was revised in 1998 based on additional water quality monitoring data. EPA, subsequently, approved each list. The Section 303(d) list of impaired waters contains a priority list of those waters that are the most polluted. This priority listing is used to determine which waterbodies are in critical need of immediate attention. For each of the listed waters, states are required to develop a Total Maximum Daily Load (TMDL), which establishes the maximum amount of a pollutant that a waterbody can receive without violating water quality standards and allocates that load to all significant sources. Pollutants above the allocated loads must be eliminated. By following the TMDL process, states can establish water-quality based controls to reduce pollution from both point and nonpoint sources to restore and maintain the quality of their water resources.

1.2. Impairment Listing

The District of Columbia's Section 303 (d) list divides the Anacostia into two segments, Lower and Upper Anacostia River. The demarcation in the list has no legal meaning other than to try to isolate the areas not attaining the applicable standards. This TMDL is for the river as a whole and applies to both the upper and lower Anacostia River. Figure 1-1 represents the impaired segments.

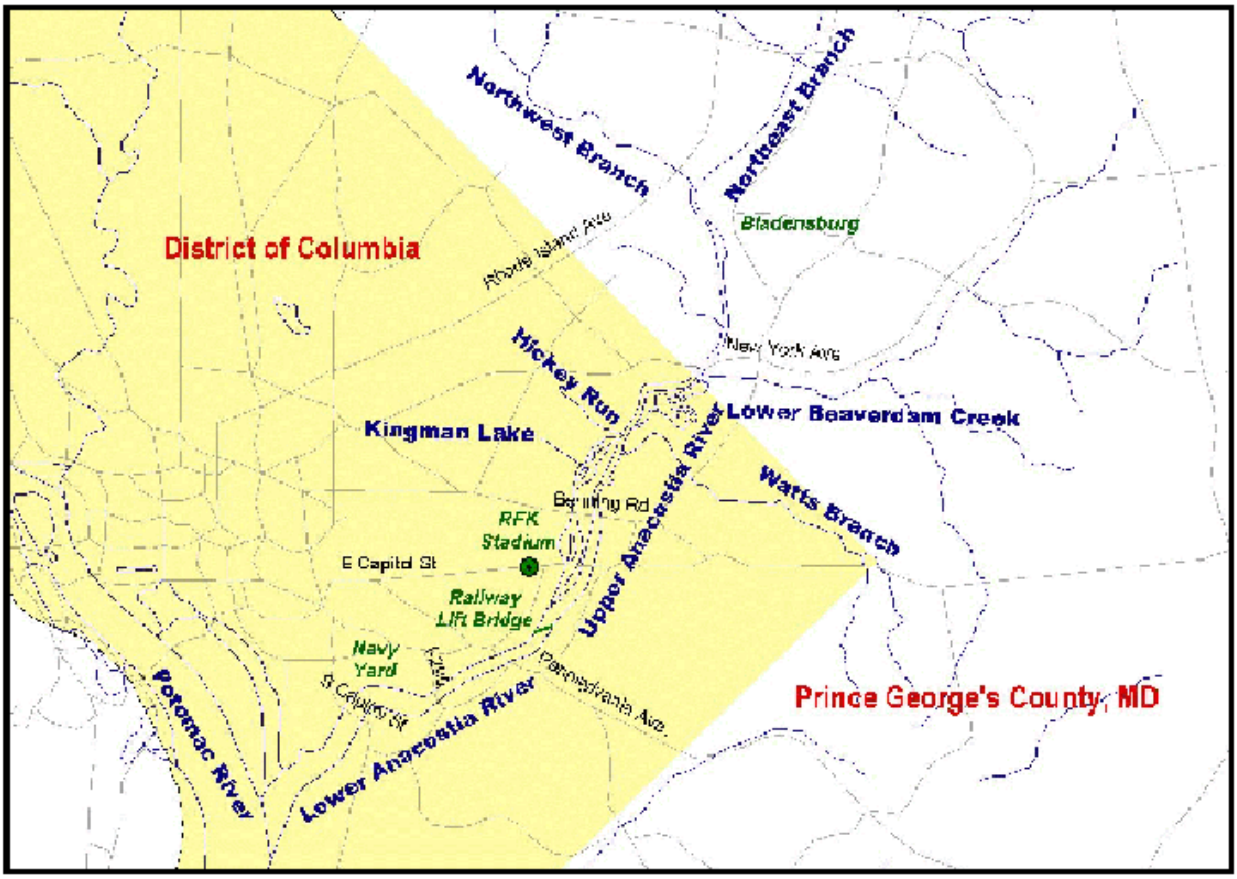

Figure 1-1: Impairment Segments

The Lower Anacostia is identified as that portion of the river extending from the mouth of the river to the John Philip Sousa Bridge at Pennsylvania Avenue and the Upper Anacostia from the John Philip Sousa Bridge to the Maryland border.

Table 1-1: 1998 Section 303(d) Listing Information

S. No	Waterbody	Pollutant of Concern	Priority	Ranking	Action Needed
1.	Lower Anacostia (below Pennsylvania Ave Bridge)	BOD, bacteria, organics, metal, total suspended solids, and oil & grease	High	1	Control CSO, point and nonpoint source (NPS) pollution
2.	Upper Anacostia (above Pennsylvania Ave Bridge)	BOD, bacteria, organics, metal, total suspended solids, and oil & grease	High	2	Control CSO, point and NPS pollution

CSO – combined sewer overflow

1.3. Anacostia Watershed Location

The Anacostia River is a major tributary to the Potomac River (which ultimately flows into the Chesapeake Bay) and the mainstem is predominantly located within the District of Columbia. It begins at the confluence of the Northeast Branch and the Northwest Branch in Maryland and flows south through the District. The watershed area is approximately 117,353 acres with 49 percent of the drainage area located in Prince George's County, 34 percent in Montgomery County, and 17 percent in the District of Columbia (Figure 1-2). The Hydrologic Unit Code (HUC) for the Anacostia River basin is 02070010.

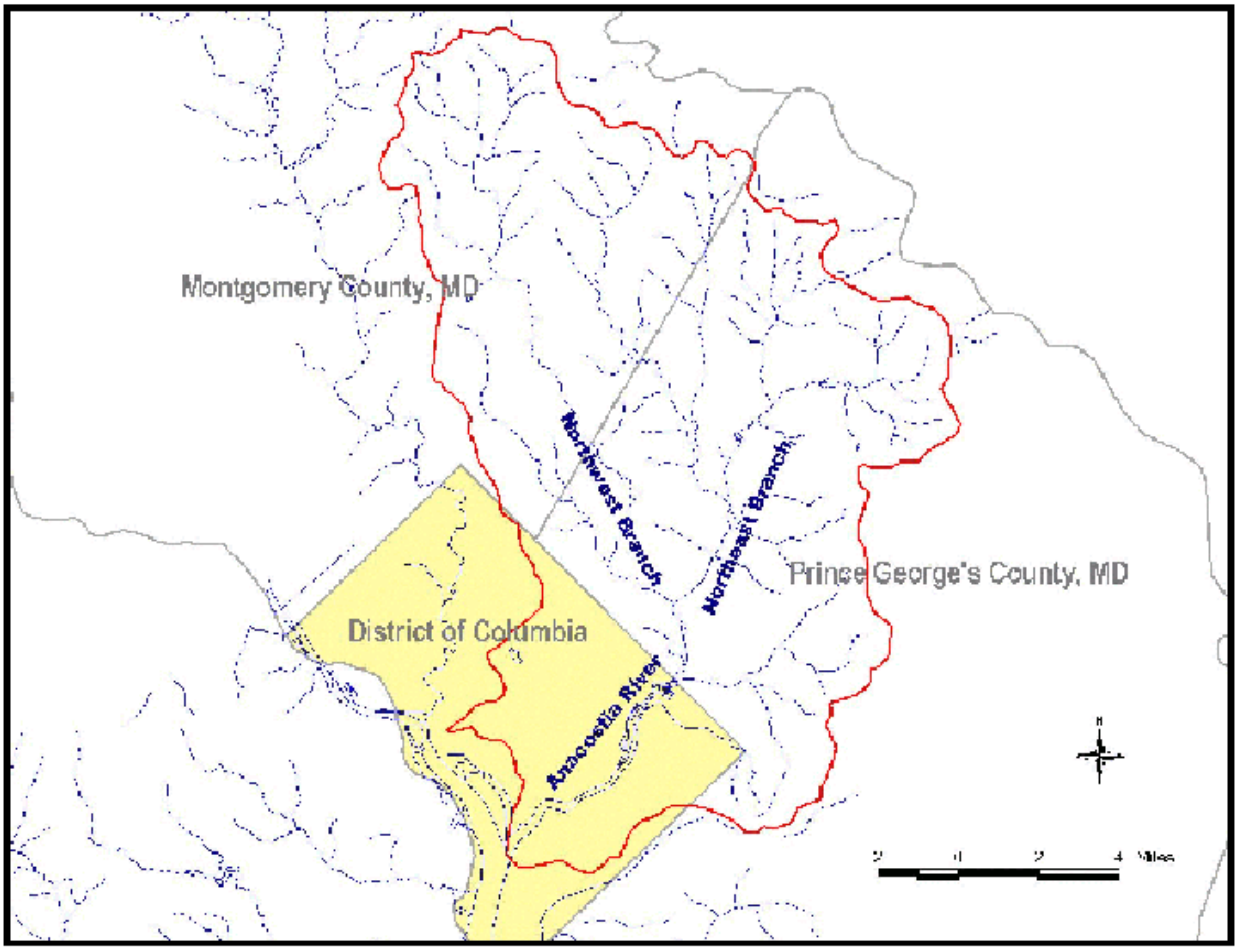

Figure 1-2: Anacostia Watershed Location Map

2. Beneficial Uses and Applicable Water Quality Standards

2.1. Designated Beneficial Uses

Categories of DC surface water beneficial uses and water quality standards are contained in District of Columbia Water Quality Standards, Title 21 of the District of Columbia Municipal Regulations, Chapter 11 (49 DCR 3012 and 49 DCR 4854, April 5, 2002 and May 24, 2002, respectively). Section 1101.1 states:

For the purposes of water quality standards, the surface waters of the District shall be classified on the basis of their (i) current uses, and (ii) future uses to which the waters will be restored.

The categories of beneficial uses for the Anacostia River are as follows:

Class A - primary contact recreation,
Class B - secondary contact recreation and aesthetic enjoyment,
Class C - protection and propagation of fish, shellfish, and wildlife,
Class D - protection of human health related to consumption of fish and shellfish, and;
Class E - navigation.

2.2. Applicable Water Quality Standards

2.2.1. Narrative Criteria

The District of Columbia's Water Quality Standards include narrative and numeric criteria that were written to protect existing and designated uses.

Section 1104.1 states several narrative criteria applicable to this TMDL designed to protect the existing and designated uses:

The surface waters of the District shall be free from substances attributable to point or nonpoint sources discharged in amounts that do any one of the following:

1. *Settle to form objectionable deposits;*
2. *Float as debris, scum, oil, or other matter to form nuisances;*
3. *Produce objectionable odor, color, taste, or turbidity;*
4. *Cause injury to, are toxic to or produce adverse physiological or behavioral changes in humans, plants, or animals;*
5. *Produce undesirable or nuisance aquatic life or result in the dominance of nuisance species; or*
6. *Impair the biological community which naturally occurs in the waters or depends on the waters for their survival and propagation.*

2.2.2. Numerical Criteria

Class C waters must not exceed 10.0 mg/l of oil and grease. This is the approximate amount of oil that will cause a visible sheen on a water surface. This criteria does not apply at flows less than the average seven day low flow which has the probability of occurrence e of once in ten years. Anacostia River was listed for oil and grease because oil from Hickey Run would enter the Anacostia River and cause exceedances of the criteria.

2.3. TMDL Endpoint

Section 1104.2 states:

> *For the waters of the District with multiple designated uses, the most stringent standards or criteria shall govern.*

Therefore, the above numerical criteria was used to establish the TMDL allocations to protect the District of Columbia waters and designated uses.

3. Watershed Characterization

3.1. Background

Around 1800, the Anacostia River was a major thoroughfare for trade in the area now known as the District of Columbia, particularly for Bladensburg, a deep water port in Maryland. By 1850, however, the Anacostia River had developed sedimentation problems due to deforestation and improper farming techniques related to tobacco farms and settlements. Channel volumes were greatly decreased and stream flow patterns were altered. Due to the continuation of the urbanization process, the river was never able to flush out the excessive amount of sediment and nutrients.

The District of Columbia, as many cities in the 19th and early 20th centuries, developed a combined sewer system, which transported both rainfall and sanitary sewage away from the developed areas and discharged it into the rivers. The two major combined sewage outfalls were at the present location of the "O" Street Pump Station and at the Northeast Boundary Sewer just below Kingman Lake. In the 1930s, Blue Plains Wastewater Treatment Plant (WWTP) was constructed and dry weather sewage flows were transported across the Anacostia River to Blue Plains. However, the wet weather flows were and are often greater than the transmission capacity of the pump stations and piping system and resulted in overflows. Later, sewer system construction techniques utilized two pipes so that the storm water could be kept separate from the sanitary sewage. Storm water is transported to the nearest stream channel and discharged while the sanitary sewage is transported to Blue Plains WWTP for treatment. There are a number of small tributaries, which flow into the Anacostia and may carry significant loads of sediment during wet weather. The largest of these is Watts Branch.

3.2. Land Use

The Anacostia River drainage area covers 117,353 acres (approximately 176 square miles) in the District of Columbia and Maryland. Forty-nine percent of the drainage area is located in Prince George's County, with 34 percent located in Montgomery County, and the remaining 17 percent located in the District of Columbia. The basin lies within two physiographic provinces, two-thirds within the Atlantic Coastal Plain and one-third within the Piedmont. The division between the provinces lies roughly along the boundary between Prince George's County and Montgomery County. The basin is highly urbanized, with a population of 804,500 and a population density of

4,570 per square mile in 1990 (Warner *et al.*, 1997). Only 25 percent of the watershed is forested and another 3 percent is wetlands.

The non-tidal portion of the Anacostia River is divided into two branches, the Northeast Branch and the Northwest Branch. Their confluence is at Bladensburg, MD. For all practical purposes the tidal portion of the Anacostia River can be considered to begin at their confluence, although the Northeast and Northwest Branches are tidally-influenced up to the location of the USGS gages on each branch: Station 01649500 at Riverdale Road on the Northeast Branch and Station 01651000 at Queens Chapel Road on the Northwest Branch.

The length of the tidal portion of the Anacostia River is 8.4 miles. The average tidal variation in water surface elevation is 2.9 feet all along the tidal river. At Bladensburg, the average depth is six feet, while the average depth at the Anacostia's confluence with the Potomac River is 20 feet. The average width of the river increases from 375 feet at Bladensburg to 1,300 feet at the mouth. Average discharge to the tidal river from the Northeast and Northwest Branches is 133 cubic feet per second (cfs). Under average flow conditions, the mean volume of the tidal river is approximately 415 million cubic feet. Detention time in the tidal Anacostia under average conditions is thus over 36 days and longer detention times can be expected under low-flow conditions in summer months.

Just over 25 percent of the Anacostia Watershed drains into the tidal river below the confluence of the Northwest and Northeast Branches. Storm sewers or combined storm and sanitary sewers control much of this drainage. The two largest tributaries are Lower Beaverdam Creek (15.7 sq. mi. drainage area), and the Watts Branch (3.8 sq. mi. drainage area). Figure 3-1 and Table 3-1 shows the breakdown of land uses in the drainage areas of the Northwest Branch, the Northeast Branch, Lower Beaverdam Creek, and the Watts Branch.

Land use in the Anacostia River watershed is mostly residential and forested (Table 3-1). There are 30 percent park and forest lands evenly dispersed throughout the watershed, such as the National Park Service, the National Arboretum, Greenbelt Park, and Beltsville Agricultural Research Center. The industrial and manufacturing land use is largely confined to the tidal area of the basin such as Hickey Run, Lower Beaverdam Creek, and Indian Creek. These sub-watersheds contain impervious areas as high as 80 percent. A more detailed description of the water body is available in *An Existing Source Assessment of Pollutants to the Anacostia Watershed* (Metropolitan Council of Governments, 1996).

Table 3-1: Land Use in the Anacostia River Basin (acres)

Watershed	Residential	Commercial	Industrial	Parks	Forest	Agriculture	Other
NW Branch	14,044	1,437	117	2,155	6,592	2,428	1,908
NE Branch	16,086	2,333	1,391	1,393	14,445	4,978	5,897
Lower Beaverdam Creek	4,374	314	314	314	2,296	429	364
Watts Branch	1,691	116	23	190	289	0	96

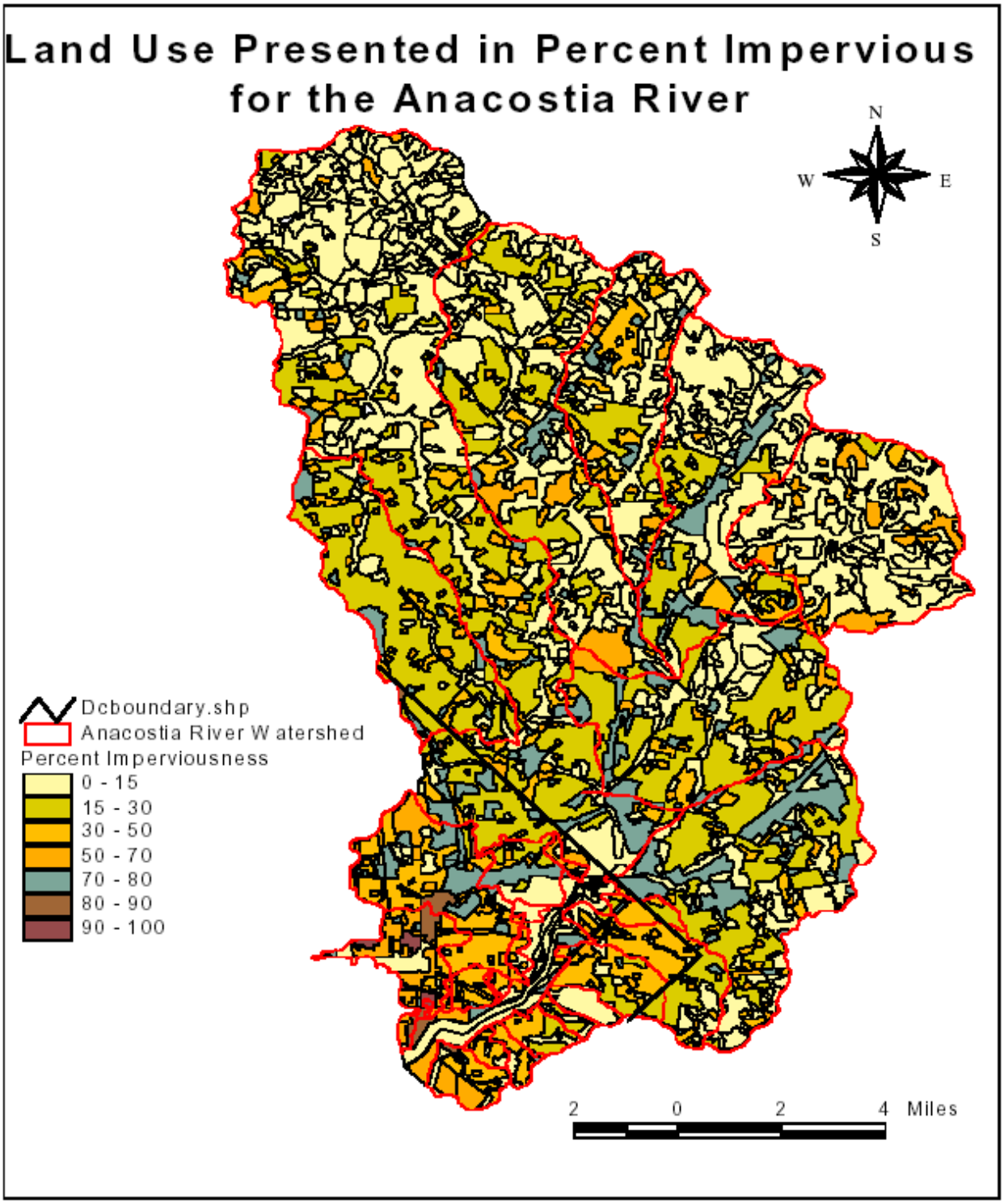

Figure 3-1: Land Use in the Anacostia Watershed

3.3. Stream Flow

Because of the episodic nature of rainfall and storm sewer runoff, developing a daily load is not an effective means of determining the assimilative capacity of the receiving waters. Rather, looking at total loads over a range of conditions is a more relevant way to determine the maximum allowable loads. When the CSO Long Term Control Plan was developed, CSO controls required meeting water quality during an average year. The plan performed a statistical analysis of the rainfall records and identified a dry year, a wet year, and an average rainfall year, based on total annual rainfall. Coincidentally, these were the consecutive years of 1988, 1989, and 1990, respectively. These three years were considered the period of record for determining compliance with the water quality standards. Compliance with the water quality standards was based on the frequency of violations as calculated by the models for these three years.

3.4. Anacostia Watershed

The Anacostia River is mostly an embayment of the Potomac River, with very low flow rates compared to the Potomac. Because of the low flows and tidal influence, travel times through the River can exceed 30 days exhibiting poor flushing rates. Flow in many segments of the tidal of the river can move either upstream or downstream, depending on tidal conditions. In the downstream portions of the river, hydrodynamics are dominated by the direction and magnitude of the tidal surge. The mean annual stream flow for the Anacostia, as measured at the upstream flow gages, is 139 cubic feet per second. Average Precipitation and Average Annual flows (Table 3-2) in cubic feet per second (cfs) for the years used in this TMDL are shown in Table 3-2. The Harmonic Mean Flows for the three U.S. Geological Survey monitoring stations are shown in Table 3-3.

Table 3-2: Average Precipitation and Average Annual Flow Data

Year	**Total Precipitation (in)**	**Days of Precipitation**	**Average Northeast Branch Flows (cfs)**	**Average Northwest Branch Flow (cfs)**	**Combined Flow (cfs)**
1988	31.7	107	72.5	43.9	116.4
1989	50.3	128	111.3	67.0	178.3
1990	40.8	127	93.2	60.4	153.6

The year 1988 is 35% below average flow, the year 1989 is 30% above average flow, and the year 1990 is an average year. The Average Annual Loads in this TMDL are calculated for the years 1988, 1989 and 2000. However, the design flow for carcinogenic constituents in stormwater and NPDES permits shall be the harmonic mean flow.

Table 3-3: Harmonic Mean Flow at USGS Gauging Stations (cfs)

USGS Gage Number	River Body	Harmonic Mean Flow	1Q10	7Q10	30Q5
01649500	Anacostia NE Branch	32.5	4.9	5.8	11.3
01651000	Anacostia NW Branch	14.8	1.6	2.0	4.9
01651800	Watts Branch	1.6	0.4	0.5	0.7

4. Source Assessment

Within the District of Columbia there are several possible sources of oil and grease to the Anacostia River watershed, these include traditional point, nonpoint, and storm water sources. Originally, a combined sewer system was installed which collected sanitary waste and storm water and transported the sanitary flow to the waste water treatment plant. When storm water caused the combined flow to exceed the pipe capacity leading to the treatment plant, the excess flow was discharged, untreated, through the combined sewer overflow to the river. There are 17 combined sewer overflows to the Anacostia River.

In the upper two thirds of the drainage area, a separate sanitary sewer system and a storm sewer system were constructed. A separate sanitary sewer line has no storm water inlets to the system and it flows directly to the waste water treatment facility. Storm water pipes collect storm water from the streets and parking lots and are discharged to the rivers.

Oil and grease are pollutants associated with a large range of human activities and as such are ubiquitous in the environment. The omnipresence of these pollutants in the environment and the lack of observed data documenting specific point of entry into the Anacostia River watershed system make it impracticable to determine specific loadings by land use or facility. Therefore, the District of Columbia determined the assimilative capacity of the watershed to accommodate these pollutants and developed a monitoring plan.

4.1 Assessment of Non-Point Sources

The Anacostia River watershed is heavily urbanized and as spills or releases of oil and grease to the environment are common and are associated with the use of any vehicle, tool, or appliance that requires these materials for operation. Once they reach the ground, these pollutants are driven into streams and rivers via storm water runoff.

Hickey Run, which has its headwaters at storm water outfalls, has been a major source to the oil and grease impairment of the Anacostia River. Spills and illicit discharges of oil and grease have been identified as the major sources of oil and grease pollution in the Hickey Run watershed. Because Hickey Run flows into the Anacostia, the District of Columbia used the Hickey Run assessments to conclude that the Anacostia and Kingman Lake were also impaired for oil and grease and identified them in the 1998 Section 303(d) list. The lower Anacostia River has experienced occasional oil and grease discharges from the area served by separate storm sewer. Field observations and reports of visible sheen of this source have provided the rationale for the 303(d) listing of the Anacostia River for oil and grease impairment.

4.2 Assessment of Point Sources

The CSO outfalls are located downstream of Kingman Island. There is approximately 1.9 billion gallons per year total CSO flow to the Anacostia, dependent upon meteorological conditions. This flow along with storm water discharges contains organic and inorganic suspended solids that contribute to oil and grease impairment.

5. Technical Approach

Analysis of current data suggests that the Anacostia River is no longer impaired by oil and grease. Hickey Run, which provided the impetus for listing the Anacostia, has demonstrated consistent compliance with WQS for oil and grease. On-going activities described in the *Hickey Run Action Plan* (2002), which include a discharge monitoring program, public education, an automobile shop survey, and automobile shop enforcement actions, caused a significant decrease in ambient pollutant concentrations. In fact, for the twenty-one samples taken in Hickey Run between January and December 2002, no values exceeded the 10mg/L standard, and only one sample exceeded a 5 mg/L Detection Limit value.

Similarly, data culled from the District of Columbia's 2001 and 2002 storm water monitoring data suggests that the Anacostia does not have significant oil and grease impairment. Table 5-1 shows that in thirty seven samples taken from storm sewer outfalls residing within 0.5 miles of the Anacostia, measurements exceeded water quality standards four times. Because the sampling points drain predominantly urban residential areas, they are representative of the storm water characteristics for the highly urbanized Anacostia watershed.

Table 5-1: MS4 Oil and Grease Measurements (mg/L)

Station	Sampling Date	Result	Station	Sampling Date	Result
Stickfoot	3/26/02	ND	Hickey 33rd&V	6/1/01	ND
Stickfoot	4/9/02	ND	Hickey 33rd&V	9/20/01	11
Stickfoot	4/18/02	ND	Hickey 33rd&V	3/2/02	7.3
O St	3/2/02	15	THRO1	3/12/01	2.7
O St	4/9/02	7.2	THRO1	4/9/01	4.0
O St	6/6/02	10	THRO1	6/18/01	ND
AHS 17&MN	2/7/02	116	THRO1	7/16/01	3.7
AHS 17&MN	3/2/02	5.9	THRO3	7/16/01	3.7
AHS 17&MN	4//9/02	ND	THRO1	8/20/01	3.7
Gallatin &14th	6/22/01	ND	THRO1	9/17/01	2.4
Gallatin &14th	3/26/02	ND	THRO1	10/22/01	<5
Gallatin &14th	6/13/02	7.4	THRO1	11/26/01	<5
Varnum &19th	2/7/02	38	THRO1	12/17/01	<5
Varnum &19th	3/26/02	ND	THRO2	10/22/01	<5
Varnum &19th	6/13/02	7.1	THRO2	11/26/01	<5
Nash	9/20/01	ND	THRO2	12/17/01	<5
Nash	12/17/01	5.1			
Nash	3/2/02	7.6			
E. Capitol	12/17/01	ND			
E. Capitol	4/9/02	ND			
E. Capitol	4/18/02	ND			

6. Anacostia Loads, TMDL Allocations, and Margins of Safety

The Anacostia River oil and grease TMDL builds upon the efforts made in previous TMDLs for the watershed. Since there is little in-stream data on the existing oil and grease loadings and their sources within the river, the TMDL loadings required to maintain ambient water quality are based upon the stream's assimilative capacity. To determine the assimilative capacity the stream's flow was multiplied by the oil and grease criteria of 10 mg/L. Calculations were made for storm water flows, CSO and upstream sources. Table 6-3 shows the contribution of each of the sources.

Table 6-3: Anacostia Load Allocation

Oil and Grease Load (lbs/day)			
Waterbody	**Storm Water Source**	**CSO Source**	**Total**
Upper Anacostia	370.0	201.8	571.8
Lower Anacostia	202.4	137.6	340.0
Upstream (MD)	123.5	---	123.5
Total	695.9	338.4	1,035.3

7. Source Control Measures

7.1 District of Columbia Sources

The DOH has committed significant effort in controlling sources of oil and grease, particularly in the Anacostia River watershed. In 2001, a systematic approach was set up by the DOH, Office of Enforcement, Compliance and Environmental Justice (OECEJ). In partnership with the US Environmental Protection Agency, the OECEJ initiated an Environmental Education for the Compliance of Auto Repair Shops (EE-CARS) project. Because of the high concentration of auto service facilities and the associated pollution problems, the Anacostia River watershed was selected as a priority watershed for the project (Appendix A). The project is basically a multi-media project addressing air, water, soil and the physical environment issues of the automotive industry. The project involves the industry, the community and other stakeholders. The basic approach of the project is to establish contact with, educate and provide compliance oversight to auto service activities. To date, direct contact with the facilities has been established, the type of activities at the specific site has been characterized, and coordination with the appropriate DC agencies and the community has been established. Appendix B and C contain the status of the EE-CARS project, and a brochure prepared as part of the outreach program of the project, respectively.

The oil and grease source control for water quality dovetails the EE-CARS project. Activities for water quality concerns are carried out in conjunction with the EE-CARS project, and where the project lacks specificity, it is supplemented by parallel water related activities. Among those tasks thus far completed under the EE-CARS project (Appendix B), the following water quality need adjustments were made:

- Coverage of inspection: The EE-CARS project covered forty six (46) randomly selected facilities in Ward 5 only. A total of one hundred and seven (107) facilities in the separate sewer area of Ward 5, including the Hickey Run watershed, were inspected for water quality concerns. In addition, outside the EE-CARS project area, all the facilities in the separate sewer system area of Ward 6 were inspected. This area was suspected to be a potential origin for oil and grease to

the lower Anacostia River. Eighteen (18) facilities were inspected in Ward 6 separate sewer system area. The area covers the entire west bank of the Anacostia River in the District of Columbia (Appendix A).

- Upgrade of database: For each auto service facility, the waterbody that may potentially be affected by that facility was added. Identification of the waterbody involved the use of detailed storm water drainage maps. This component is the ground work for enforcement action to identify the potential responsible facility for oil sheen observed in a waterbody.

- Preparation of a tailored inspection checklist: Due to the multi-media nature of the project, the EE-CARS inspection checklist/inquiry form did not contain sufficient water quality related items. A new inspection checklist with details on the generation, handling and disposal of wastewater at the facilities was developed and used.

A review of water quality data for oil and grease for the Hickey Run watershed reveals that Hickey Run is in compliance with the DC WQS. No reports of visible sheen on Hickey Run or the Anacostia River were received in 2002.

With the implementation of the 2003 EE-CARS project plans (Appendix B), and concomitant water quality control activities, the sources of oil and grease within the District of Columbia will be mitigated.

In addition, the Hickey Run Best Management Practice (BMP) project will provide an end-of-pipe mitigation. The objective of this project is to improve water quality and habitat conditions of Hickey Run. Improvements include installation of a storm water management facility where Hickey Run enters the National Arboretum. This facility will filter pollutants such as oil and grease originating from industrial areas north of New York Avenue. Funding has been transferred to the Arboretum for this facility. This project will also rebuild channelized portions of the stream to a more natural flow pattern to better control sediments and protect fish and other wildlife. Partners on this project include US National Arboretum and USEPA, Chesapeake Bay program.

7.2 Upstream Sources

The District of Columbia has joined with the State of Maryland, Prince George's and Montgomery Counties, the Army Corps of Engineers, and other federal agencies to form the Anacostia Watershed Restoration Committee, whose goal is to coordinate efforts to improve water quality in the Anacostia Watershed. The District is also a signatory to the Chesapeake Bay Agreement, pledging to reduce pollution loads to the Bay.

On May 10, 1999, Mayor Williams signed a new Anacostia Watershed Restoration Agreement with Maryland, Prince George's County, Montgomery County, and U.S. EPA to increase efforts to improve water quality. The Agreement has six major goals. The first one pertains to this TMDL:

Goal #1: Dramatically reduce pollutant loads, such as sediment, toxics, CSOs, other nonpoint inputs and trash, delivered to the tidal river and its tributaries to meet water quality standards and goals.

On June 28, 2000, Mayor Williams, Governor Glendening, U.S. EPA and others signed the new Chesapeake Bay Agreement, which states:

> By 2010, the District of Columbia, working with its watershed partners, will reduce pollution loads to the Anacostia River in order to eliminate public health concerns and achieve the living resources, water quality, and habitat goals of this and past agreements.

Thus, an agreement is in place, which clearly demonstrates a commitment to the restoration of the river by the year 2010. This establishes a completion date for implementation of those activities necessary to achieve the load reductions required by the oil and grease standards.

7.3 Monitoring

To verify compliance with the ambient WQS, the Department of Health will endeavor to monitor for oil and grease in the Anacostia River to evaluate the effectiveness of the source control measures.

Table 7-1: Anacostia River Oil and Grease Monitoring Plan

Station ID	Descriptor	Frequency	Analysis[1]
ANA01	NY Avenue Bridge 50M upstream of Westbound bridge	Quarterly	Chemical
ANA05	Hickey Hill 200M upstream of Hickey Run	Quarterly	Observation
ANA12	Kingman Lake outlet; upstream side	Quarterly	Observation
		2x / year	Chemical
ANA14	Pennsylvania Ave; Marina South Dock	Quarterly	Observation
ANA19	Navy Yard; across from east pier	Quarterly	Observation
		2x / year	Chemical
ANA26	Washington Channel; 200M south of red & green NUN	Quarterly	Observation
ANA29	At red /green flasher near Potomac confluence	Quarterly	Observation
		2x / year	Chemical

[1] An "observation" indicates the presence / absence of visible oil sheen and associated oil odor on surface water. A "chemical" analysis indicates surface water sampling and analysis for oil and grease in water per EPA Method 1664A (see 64 FR 26315) or equivalent EPA-approved method.

Individual stations may be substituted, as appropriate, based on best professional judgment and accessibility. In addition, monitoring frequency may be reduced in the second year if all first-

year monitoring results indicate no exceedances of water quality standards related to oil and grease. All monitoring, sampling, and analysis is to be conducted in accordance with the District of Columbia Municipal Regulations, Title 21, Chapter 19 – Water Quality Monitoring Regulations. Specifically, Sections 1901 and 1902 of this Chapter provide for a Quality Assurance Project Plan and Quality Assurance Manual for water quality monitoring.

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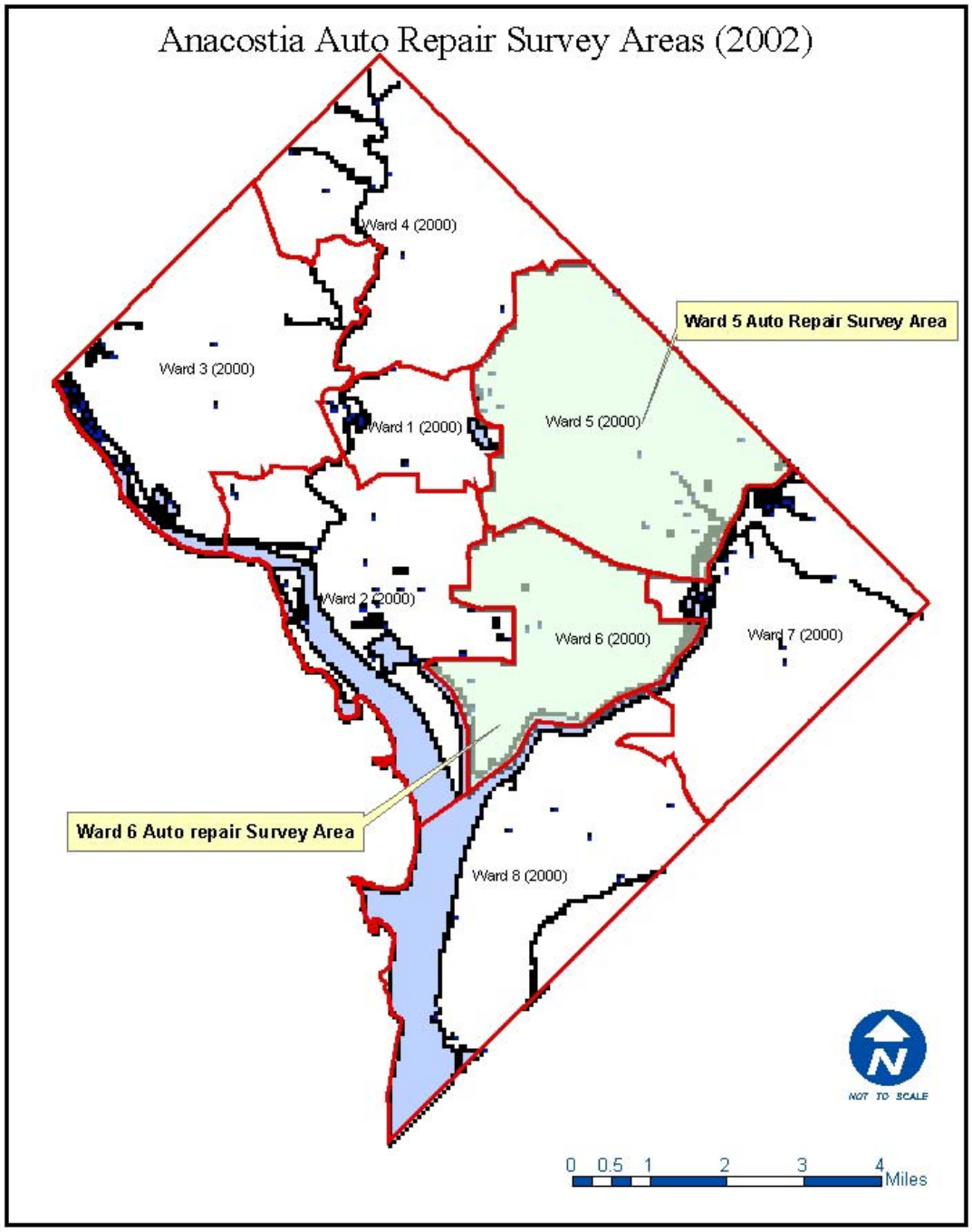
APPENDIX A

Automotive Industry Survey Area


Anacostia Auto Repair Survey Areas (2002)
Ward 4 (2000)
Ward 5 Auto Repair Survey Area
Ward 3 (2000)
Ward 1 (2000)
Ward 5 (2000)
Ward 2 (2000)
Ward 6 (2000)
Ward 7 (2000)
Ward 6 Auto repair Survey Area
Ward 8 (2000)
NOT TO SCALE
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APPENDIX B

EE-CARS Project Status

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Health
Environmental Health Administration

Office of Enforcement, Compliance &
Environmental Justice

THE EE-CARS PROJECT

JANUARY 2003

The EE-CARS Project

EE-CARS (*Environmental Education for the Compliance of Auto Repair Shops*) is a partnership between DOH/EPA, the community, and the auto repair industry to promote compliance with environmental rules, regulations, pollution prevention, and best management practices of that industry in Ward 5. EE-CARS supports DOH's enforcement efforts using a non-traditional compliance initiative relying heavily on outreach, education and stakeholder coordination. Below is a brief update on the progress and plans for this Project.

New Addition to the EE-CARS Team

We are pleased to announce the addition of Douglas Belling, graduate student of the University of Maryland, College Park, to our EE-CARS team.

Groundwork Completed

- *Dec 2001* - Established a database of auto repair shops in Ward 5.
- *May 2002* - Conducted inspections of 46 randomly selected shops.
- *Sept 2002* - Administered quiz to 20 shops on knowledge of regulations.
- *Dec 2002* - Compiled and analyzed data from inspections and quizzes to establish environmental compliance prior to implementation of the EE-CARS education efforts.

Plans for 2003

- *Jan 2003* - Disseminate introductory materials about EE-CARS to the Ward 5 community and the auto repair industry.
- *March 2003* - Distribute EE-CARS self-certification/audit forms and compliance manuals/workbooks to the shops.
- *May 2003* - Collect self-certification/audit forms from the shops. Conduct follow-up random inspections in Ward 5.
- *June 2003* - Compile and analyze data from inspections and forms returned by facilities.
- *July 2003* - Prepare a report of the findings of the project. Identify areas for improvement, next steps and enforcement strategies.

Current Activities

- **Compliance Manual/ Workbook and Self-Certification/ Audit Form**

DOH is developing a Compliance Manual/Workbook and Self-Certification/Audit Form for distribution to the auto repair shops in Ward 5. These documents rely on available resources, including similar materials from other states.

The Workbook, which will also be distributed to the community, will inform the auto repair shops and the community, in easily understandable terms, what auto repair shops must do to:

- comply with District and federal regulations,
- comply with best management practices, and
- get more information on auto repair operations and environmental compliance.

The Self-Certification/Audit Form will allow each repair shop and EHA to assess the level of compliance with the Workbook subjects and identify areas in need of change or improvement.

If the Workbook is to be a valuable tool in EHA's compliance efforts, it must incorporate relevant District environmental requirements and other pertinent data. To ensure that this occurs, we will prepare an initial draft and then seek comments from EHA program managers and staff. Your participation would be greatly appreciated and credited in the Workbook. We also plan to seek the input of the community and local associations representing the auto repair industry, as to best management practices. Attached is a spreadsheet identifying likely Workbook topics.

- **EE-CARS Pamphlet**

Attached is a draft pamphlet, which, after approval by the DOH Communications Office, will be distributed to community leaders and groups in Ward 5. The pamphlet explains the Project and its goals. We plan to prepare a similar pamphlet with a slightly different focus for distribution to the auto repair shops.

Your Input is Valuable

We look forward to sharing ideas and information with you about this Project on an ongoing basis. If the EE-CARS Project is successful in Ward 5, it could be implemented in other wards or could be modified to target other troublesome industry sectors. If you have any questions about this Project, please do not hesitate to contact Kendolyn Hodges-Simons at (202) 535-2502.

APPENDIX C

DRAFT EE-CARS BROCHURE

What is EE-CARS?

EE-CARS, which stands *for **Environmental Education for the Compliance of Auto Repair Shops***, is an environmental compliance project designed to improve how auto repair shops operate in Ward 5 of the District.

EE-CARS is a partnership between the District of Columbia Department of Health, the U.S. Environmental Protection Agency (EPA), the community, and the auto repair industry to promote compliance with the environmental rules, regulations and best management practices of that industry.

Why was Ward 5 chosen for EE-CARS?

Ward 5 was chosen because it has a large number of auto repair shops, many of which will benefit from this project.

How many auto repair shops are there in Ward 5?

The Department of Health and EPA conducted a survey of small auto repair shops (those employing less than 20 people) and found 132 shops in Ward 5.

What does the EE-CARS project hope to accomplish?

EE-CARS has four (4) goals for auto repair shops. They are:

- **Improve compliance with required licensing, permitting & certifications;**
- **Improve compliance with local and federal environmental rules and regulations;**
- **Improve the health and safety of persons working in, or living near, auto repair shops; and**
- **Assist in neighborhood revitalization by eliminating any unattractive aspects of their businesses such as scrap tires, discarded auto parts and junk cars.**

Why should you be concerned about auto repair shops in your community?

Auto repair shops provide a valuable service, yet the operations can affect our lives in many ways.

The quality of the air we breathe may be affected by sanding and spray-painting from auto collision and bodywork.

Our rivers and streams may be affected by leaking above ground and underground storage tanks, spills, or improper drainage from the shop floors and the surrounding premises.

Workers, customers and neighbors may come into contact with hazardous substances, such as cleaning solvents and paint thinners, that are used and stored in auto shops.

A HEALTHY ENVIRONMENT PROMOTES A HEALTHY COMMUNITY

How can you help the EE-CARS project to succeed?

- *Attend all EE-CARS community meetings.*
- *Carefully read all EE-CARS literature.*
- *Pay attention to whether the auto repair shops in your community are operating as the law requires and are using safe business practices.*
- *As a community, encourage auto repair shops in your neighborhood to follow the appropriate rules and regulations. If they still do not comply, call the Department of Health at (202) 535-2500.*

YOU ARE AN IMPORTANT STEP TO A HEALTHY COMMUNITY

For More Information About EE-CARS Contact:

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Community Pamphlet
January 2003

DRAFT

EE-CARS

Environmental Education for the Compliance of Auto Repair Shops

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Anthony A. Williams, Mayor

Department of Health
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Director